REQUIREMENT ANALYSIS
Solution Requirements (Functional & Non-functional)

Date	27 June 2025
Team ID	LTVIP2025TMID31454
Project Name	HEALTH AI USING IBM GRANITE
Maximum Marks	4 MARKS

Functional Requirements:
Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**User Registration & Profile Management**	Registration through Form Registration through Secure Health ID (e.g., linked to EHR) Registration through Gmail/LinkedIn (if applicable for non-PHI access) User Profile Creation (medical history, specializations for doctors)
FR-2	**User Authentication & Authorization**	Confirmation via Email Confirmation via OTP (SMS/Authenticator App) Role-based access control (Doctor, Admin, Researcher)
FR-3	**AI-Powered Medical Literature Analysis**	Search and Filter Medical Journals/Articles Summarize Key Findings from Research Papers Identify Connections between Symptoms and Rare Diseases from Literature Alert Users to New, Relevant Research Updates
FR-4	**AI-Assisted Differential Diagnosis**	Input Patient Symptoms & Medical History Suggest Potential Rare Disease Diagnoses (prioritized) Provide Justification for AI Suggestions (evidence-based) Allow Doctor to Refine Symptoms for Re-evaluation
FR-5	**Genomic Data Interpretation**	Upload Patient Genomic Data (securely) Identify Genetic Markers Associated with Rare Diseases Generate Interpretable Reports on Genomic Findings Cross-reference Genomic Data with Phenotype/Symptoms
FR-6	**Virtual AI Assistant (Conversational Interface)**	Answer Medical Queries (general & specific to patient data) Guide Users through Data Input (symptoms, medication adherence) Provide Explanations for AI Insights in Layman's Terms Schedule Follow-up Reminders (e.g., medication, appointments)
FR-7	**Reporting & Analytics**	Generate Patient Progress Reports (for doctors & patients) Track Diagnostic Accuracy and Efficiency Metrics Provide System Usage Analytics (for administrators)

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system shall be intuitive and easy for healthcare professionals and patients to navigate with minimal training. It should have a clean, consistent user interface and provide clear feedback on user actions.
NFR-2	**Security**	The system shall comply with all relevant healthcare data privacy regulations (e.g., HIPAA, GDPR). It must ensure end-to-end encryption of all patient data (data in transit and at rest), robust access controls, and regular security audits.
NFR-3	**Reliability**	The AI models shall consistently produce accurate and reliable diagnostic suggestions and interpretations. The system should operate without significant errors or downtime, maintaining data integrity even in the event of system failures.
NFR-4	**Performance**	The system shall provide timely responses to user queries and AI processing requests (e.g., literature searches, genomic interpretations). Diagnostic suggestions should be generated within acceptable clinical timeframes (e.g., seconds for immediate queries).
NFR-5	**Availability**	The system shall be available 24/7 with minimal planned downtime for maintenance. Critical diagnostic features should have high availability (e.g., 99.9% uptime).
NFR-6	**Scalability**	The system shall be able to handle an increasing number of users, patient data, and AI model complexities without significant degradation in performance. It should support future expansion of features and integration with new data sources.